

IN THE SPECIFICATION:

Please amend the paragraph at page 1, line 9 as follows:

Products are managed by providing a bar code to the product and identifying the product by reading this bar code optically. ~~Since~~ Because the bar code labels can be prepared at a low cost by printing, etc., by using such bar code labels, it is possible to reduce the management cost substantially.

Please amend the paragraph at page 1, line 14 as follows:

The bar-code labels attached to the products are read using a bar code reader. Such a bar code reader generally includes an optical system like a laser reader, a charged coupled device (CCD) camera, etc. The bar code reader receives light that is reflected from a bar code label, determines a pattern of the white lines and the black lines in the bar code from the optical power of the light reflected, and then decodes this pattern to obtain character data that is a pattern of numerals and characters. Such a bar code reader has been disclosed in, for example, Japanese Patent Application Laid-open Application No. 2000-251008.

Please amend the paragraph at page 1, line 24 as follows:

Each bar-code reader in a shop, for example, is provided with an identification number, i.e., a serial number, for recognizing the bar-code reader. The identification number is directly written or printed on a surface of the bar-code reader, or written or printed on a paper and that paper is stick

stuck to the bar-code reader.

Please delete the subheading at page 4, line 4, and replace with the following subheading:

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

Please amend the paragraph at page 4, line 8 as follows:

Fig. 1 is an illustration of a POS system that uses a bar-code reader according to an exemplary embodiment of the present invention. This POS system includes a plurality of POS terminals 3 and 4 that are connected to a POS management device 1 via a network 2.

Please amend the paragraph at page 4, line 12 as follows:

A bar-code reader is connected to each of the POS terminals. Concretely, a bar-code reader 10 is connected to the POS terminal 3 and a bar-code reader 5 is connected to the POS terminal 4. The bar-code reader 10 irradiates a laser beam on a bar code and creates bar-code data that indicate a bar-code pattern, from the light reflected from the bar code. Further, the bar-code reader 10 decodes the bar-code data and creates character data of numerals and alphabets. The bar-code reader 10 then transmits the character data to the POS terminal 3. The POS terminal 3 transmits product information based on the character data, to the POS management device 1.

Please amend the paragraph at page 5, line 14 as follows:

The reader-management information 19a includes versions or identification information for identifying the bar-code reader 10 and versions or identification information for identifying computer programs and components which are included in the bar-code reader 10. ~~Since~~ Because it is necessary to store the information irrespective of whether the power supply is made to the bar-code reader 10 or not, it is desirable that the reader manager 19 is a non-volatile memory.

Please amend the paragraph at page 8, line 16 as follows:

The display 16, apart from the completion of the bar-code reading, informs messages ~~like~~ such as an error message. The display 16 may be equipped with a display ~~like~~ such as a seven segment display. Information to be informed can be increased by providing such a display.

Please amend the paragraph at page 10, line 1 as follows:

~~Since~~ Because the motor 21 rotates the polygon mirror 45, an angle of reflection of the laser beam that is reflected from the plane mirror 44 varies with time. Therefore, the bar code 6a can be scanned by shifting the irradiating position of the laser beam on the bar code 6a.

Please amend the paragraph at page 12, line 7 as follows:

Thus, the reader management information 19a stores, hierarchically, information corresponding to the configuration of the bar-code reader 10. Therefore, the required information

of the configuration of the bar-code reader 10 can be read out from the reader management information 19a, and used.

Please amend the paragraph at page 12, line 20 as follows:

Further the controller 14 decodes the bar-code data and creates character data (step S102). Then, the controller 14 makes a judgment of whether the bar code 6a indicates the management information or not, by checking the character data (step S103). For example, the controller 14 embeds, in advance, a specific character pattern that indicates whether or not it is the management information ~~or not~~. The judgment of whether or not the bar code 6a indicates the management information ~~or not~~, is made by checking if the specific character pattern is there or not.

Please amend the paragraph at page 13, line 4 as follows:

If the bar code 6a does not indicate the management information (step S103, No), the controller 14 makes a judgment of the bar code 6a indicating product data, and transmits the character data to the POS terminal (step S104), thereby ending the process. Whereas, if the bar code 6a indicates the management information (step S103, Yes), the controller makes a judgment of whether or not the management information is there in the reader management information 19a ~~or not~~ (step S105).

Please amend the paragraph at page 13, line 12 as follows:

If there is management information in the reader management information 19a (step S105, Yes), for example, if the character data is a laser device identification number and if laser device identification information is there in the reader management information 19a, the controller 14 updates the information by overwriting the management information (step S106), and ends the process.

Please amend the paragraph at page 13, line 18 as follows:

On the other hand, if there is no management information in the reader management information 19a (step S105, No), for example, if the character data is a laser device identification number and if laser device identification information is not there in the reader management information 19a, the controller 14 adds the management information to the reader management information 19a (step S107) and ends the process.

Please amend the paragraph at page 13, line 25 as follows:

The reading of a bar code by using the optical system 15 is explained here. A bar code is read by using the touch scanner 12 in a similar manner. In other words, when bar code data that is acquired from the touch scanner 12 is decoded, a judgment of whether or not the bar code indicates the management information, ~~or not~~ is made. If the bar code indicates the management information, the management information is written in the reader manager 19.

Please amend the paragraph at page 15, line 10 as follows:

The reader management information 19a is read not only upon the request from the POS management device 1. For ~~examples~~ example, the POS terminal 3 can make a request for the management information or the bar-code reader 10 can read out the management information independently (without the request).

Please amend the paragraph at page 15, line 25 as follows:

The bar-code reader 10 includes reading windows 11 and 11a that include a transparent material like glass. The reading window 11 is a reading window that is used in normal bar-code scan. While reading a bar code that is affixed to a product, the optical system 15 irradiates laser beam through the reading window 11. In this case, the optical system 15 has to scan the bar code such that the bar code can be read irrespective of a direction in which the bar code is placed. For this, in Fig. 7, the optical system 15 scans the bar code by using a scan pattern 61, which is called ~~as~~ a delta scan.

Please amend the paragraph at page 16, line 18 as follows:

~~Since~~ Because the bar code can be affixed on the reading window 11a according to the scan direction of the laser beam, in Fig. 7, the bar code can be scanned by using a scan pattern 62, which is called ~~as~~ single scan.

Please amend the paragraph at page 17, line 12 as follows:

Thus, according to the present embodiments, the bar-code reader 10 is equipped with the reader manager 19 and the information of the device configuration is stored as the reader management information 19a. As a result of this, it is possible to read out information like the version information of the computer program, the product number of the component, the serial number of the bar-code reader, when required. Moreover, ~~due to~~ as a result of the configuration that allows reading of the serial number, the product number, etc., from the bar code, the load of inputting information like the serial number and the product number, on user is reduced. This enables ~~to perform~~ efficient management to be carried out.

Please amend the paragraph at page 17, line 23 as follows:

Furthermore, the information of the device configuration that is received via the POS terminal 3 is stored in the reader manager 19. As a result of this, the version of the computer program can be updated automatically. ~~Since~~ Because the date and time of replacement of parts is recorded, the management of time of replacement of parts can be performed.